55. (New) The computer program of claim 54, wherein the file comprises a header, the header comprising a quantity of the plurality of data sets, a resolution of each data set, and a compressed size of each data set.

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REMARKS

Applicants respectfully request that the present Amendment be entered prior to examination of the present Application. By this Amendment, claim 1 has been canceled and claims 2-55 have been added. Upon entry of the amendments, claims 2-55 will be pending. No new matter has been added in this amendment, and the claims are believed to be in condition for allowance. Accordingly, the Applicants respectfully request consideration of the present application in light of the foregoing amendments and the following remarks.

Applicants respectfully request allowance of the pending claims 2-55. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Date: 8/9/2001

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Please replace the paragraph beginning at page 16, line 28 with the following amended paragraph:

> Returning to Fig. 6, with the family of compression code tables generated and stored at step 270, configuration segment 250 continues with generation of predictor preferences ~~at~~ as indicated at step 272. As described above, rather than employ actual pixel intensity values for encoding in the present compression technique, difference values may be employed based upon the predictor algorithms. The predictor algorithms generally produce relatively low values in low entropy regions of the image, and relatively higher values in higher entropy regions. However, the use of prediction errors for the data compression will generally result in compression of values which are lower (i.e. shorter in length) than the original data stream code values due to the relatively gradual progression of intensity variations over the image.

Please replace the paragraph beginning at page 19, line 16 with the following amended paragraph:

> Following segment 252, control advances to evaluation segment 254. Within this segment, the image data is reviewed for descriptive information as indicated at step 280. As described above, where descriptive information is available, such as DICOM compliant data in a descriptive header section of the image data stream or descriptive data from the database, some or all of this data is reviewed at step 280. Based upon the preferences set in the configuration segment 272, predictors are selected at step 282 depending upon the image characteristics identified ~~as~~ at step 280. Again, these may include the modality of the originating imaging system, the study type or anatomy featured in the image, the number of columns in the image, the number of rows, and so forth. Moreover, other factors may be considered in selecting the predictors at step 282, such as the computational efficiency desired, the processing power of the system, and so forth, with computationally efficient

predictors being selected where such processor capabilities are limited, or where additional speed is desired. At step 284, the subregion size for division of the image data stream into subregions is selected in accordance with the preferences established at step 274. Again, step 284 may consist of a default selection, which may be altered depending upon some or all of the characteristics or factors considered for selection of the predictors.

Please replace the paragraph beginning at page 30, line 12 with the following amended paragraph:

Following compression of the high and low frequency data sets as summarized in Fig. 15, the resulting data is compiled in a data stream or file as indicated by reference numeral 342. In a present embodiment, the data stream includes a descriptive header 344, followed by a series of data ~~series~~ sets, including a first ~~series~~ set 346 for the lower-most resolution data ~~set~~ (including the low and high frequency compressed data), and ~~a~~ successive data sets 348, each including high frequency compressed data for the respective level. In a present implementation, the data stream or file includes a header describing the version of the multiresolution scheme, the type of forward transform (sign/unsigned with/without overflow, see the discussion below), the number of levels of wavelet decomposition, the row and column values of every sub-band level (resolution), and the compressed sizes of all the sub-bands from smallest to the largest. Again, the lowest level low frequency data set is compressed using predictive compression as described above, while the high frequency data sets for each level are compressed using the appropriate non-predictive or modified compression scheme. In addition to storing the data storage header at the top of the compressed stream, in a medical diagnostic context, other elements may be stored in a DICOM header. In a present implementation, these include the number of levels "n," row (rr) values (rr(n), rr(n-1),..., rr(0)), column (cc) values (cc(n), cc(n-1),..., cc(0)), and compressed data size (cxebyte) for every level (cxebyte(n), cxebyte(n-1),..., cxebyte(0)).

Please replace the paragraph beginning at page 32, line 26 with the following amended paragraph:

> A data stream or file map created by the foregoing technique is illustrated in somewhat greater detail in Fig. 18. As discussed above, the data stream or file 342 includes header 344, followed by code valves for the compressed sub-bands or data sets, beginning with the nth data set. Within these data segments, sections 378 encode the low and high frequency sub-bands or data sets. In the following data segments 348, sections 380 encode high frequency sub-bands or data sets for the higher levels. It should also be noted that, as mentioned above, additional code ~~valves~~ values are included within the data stream for the information discussed above with respect to Huffman code tables used for compression, subregion lengths, and so forth.